Plant Reproduction – Alternation of Generations

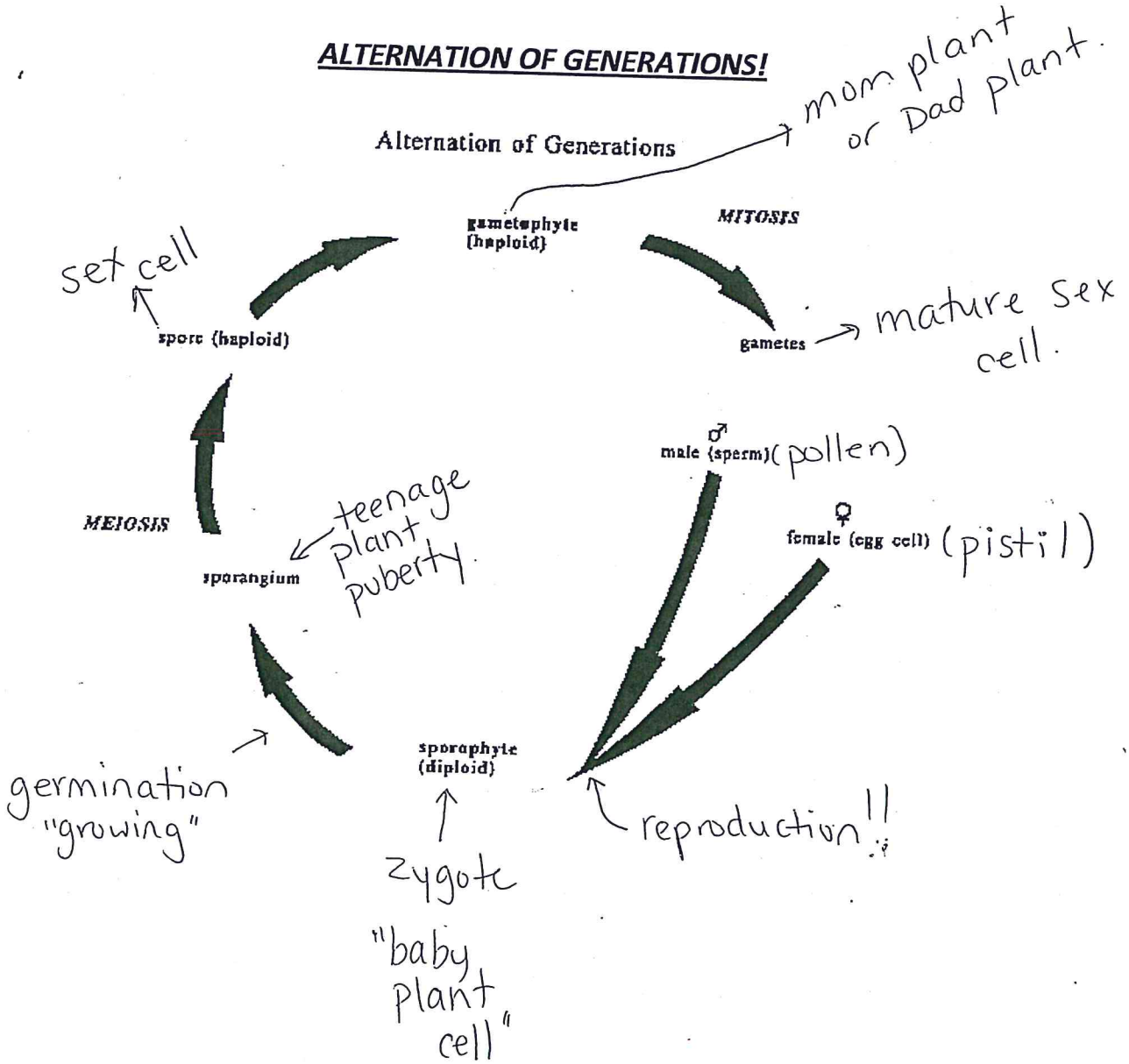
Haploid (N) – one copy of each chromosome (n).
Diploid (2N) – two copies of each chromosome (2n).

- Humans are diploid. **Each cell or our body has two copies (2N) of each chromosome; one set from Mom and one set from Dad.**
- Only our sex cells are haploid (1N) (sperm and egg)

- The life cycle of most plants include both a diploid stage (generation) and a haploid stage (generation)

- The switching back and forth between the production of haploid and diploid cells is called:

ALTERNATION OF GENERATIONS!



1) The sporophyte **(diploid 2N) uses meiosis in part of its structure to produce haploid spores (1n) some of which are male spores and some of which are female spores.**

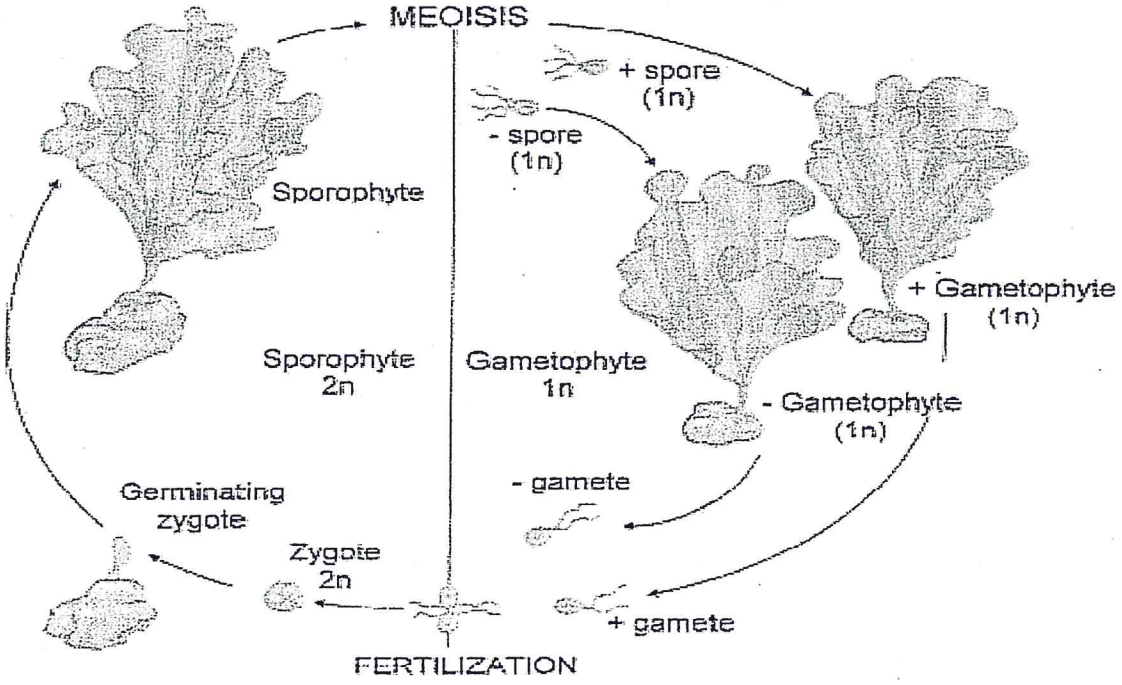
2) These haploid spores hatch and grow into male or female gametophyte.

3) The male gametophyte plant uses mitosis to produce sperm (1n) and the female gametophyte plant uses mitosis to produce eggs (1n).

4) Sperm and egg join (egg is fertilized by the sperm) to form a zygote (2N - diploid cell).

5) The zygote then grows and develops into the new sporophyte plant.

Ulva life cycle



- Sometimes the haploid plants look the same as the diploid plant. Sometimes they look much different.